

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 28

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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**Ex parte** STANLEY J. BROOKS

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Appeal No. 2000-0368  
Application No. 08/789,659

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HEARD: January 22, 2002

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Before RUGGIERO, DIXON, and LEVY, **Administrative Patent Judges**.  
DIXON, **Administrative Patent Judge**.

**DECISION ON APPEAL**

This is a decision on appeal from the examiner's final rejection of claims 1, 9, and 17-25. We note that claim 19 was rejected in the final rejection at page 3, but was not addressed by the appellant in the brief. Furthermore, claim 19 has not been rejected or its status addressed by the examiner in the answer. Neither has it been canceled by appellant. Therefore, we do not address this claim in this decision.

We REVERSE.

## **BACKGROUND**

The appellant's invention relates to an arcing fault detection system for a secondary line of a current transformer. An understanding of the invention can be derived from a reading of exemplary claim 17, which is reproduced below.

17. A system for detecting arcing faults in an electrical distribution system including a line conductor carrying an electrical current between a power source and a load [sic ,] said system comprising:

a current transformer coupled to said line conductor, said current transformer including at least one secondary line carrying a secondary current less than the electrical current carried on said line conductor,

a sensor coupled to one of said secondary lines for monitoring the secondary current to detect the occurrence of an arcing fault signal in said line conductor, said sensor producing a rate-of-change signal representing the rate of change of said secondary current, and

means for generating an arcing-fault-detection signal in response to said rate-of-change signal demonstrating characteristics of an arcing fault.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

|                              |           |               |
|------------------------------|-----------|---------------|
| Beihoff et al. (Beihoff)     | 5,206,596 | Apr. 27, 1993 |
| MacKenzie et al. (MacKenzie) | 5,459,630 | Oct. 17, 1995 |

Claims 1, 9, 17, 18, 24, and 25 stand rejected under 35 U.S.C. § 103 as being unpatentable over Beihoff. Claims 20-23 stand rejected under 35 U.S.C. § 103 as being unpatentable over Beihoff in view of MacKenzie.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellant regarding the above-noted rejections, we make reference to the final rejection (Paper No. 12, mailed June 19, 1998), examiner's answer (Paper No. 21, mailed Jan 20, 1999) for the examiner's reasoning in support of the rejections, and to the appellant's brief (Paper No. 18, filed November 23, 1998) and reply brief (Paper No. 24, filed May 21, 1999) for the appellant's arguments thereagainst.

### **OPINION**

In reaching our decision in this appeal, we have given careful consideration to the appellant's specification and claims, to the applied prior art references, and to the respective positions articulated by the appellant and the examiner. As a consequence of our review, we make the determinations which follow.

The examiner maintains that Beihoff teaches a sensor (resistor 162) coupled to one of the secondary lines for monitoring the rate of change of the electric current in the secondary line, but Beihoff does not disclose that the sensor produces a signal representing the rate of change of the electric current in the secondary line. (See final

rejection at page 3.) The examiner further maintains that the resistor 162 relied upon in Beihoff is considered to be a sensor in that it will sense and monitor the current flowing through it and if the resistor was hooked-up to a meter one could actually see the voltage and current changes. (See final rejection at page 5.) The examiner admits that the resistor 162 does not produce a signal, but the examiner relies on the term “representing” in the claim. The examiner argues that “one could argue that the resistor 162 of Beihoff et al. does indeed produce a signal representing the rate of change of said secondary current, since such current passes through said resistor.” (See final rejection at page 5 and see also answer at page 4.)

Appellant argues that the language of independent claim 17 requires “a sensor coupled to one of said secondary lines for monitoring the secondary current to detect the occurrence of an arcing fault signal in said line conductor, said sensor producing a *rate-of-change signal representing the rate of change of said secondary current*” (emphasis by appellant) and that the terms “rate of change” and “producing” require an active element rather than the examiner’s passive element resistor 162. (See brief at pages 13-15.) We agree with appellant. Furthermore, we find that while Beihoff teaches the use of the second derivative signal, the examiner’s reliance upon the load resistor 162 would not produce a signal indicative of the rate of change of current. The

mere ability of the skilled artisan to be able to measure that value, if desired, does not in our mind establish the requisite motivation to modify the teachings of Beihoff to use an additional sensor. Therefore, we find that the examiner has not established a ***prima facie*** case of obviousness based on the teachings of Beihoff alone, and we will not sustain the rejection of independent claim 17 and its dependent claims 9 and 18. Similarly, we will not sustain the rejection of independent claim 24 and dependent claims 1 and 25.

The examiner relies on the teachings of MacKenzie to suggest the use of a test line coupled to the sensor in the same manner as said secondary line and a test signal coupled to the sensor. (See final rejection at pages 4-5.) Appellant argues that MacKenzie does not remedy the deficiency in Beihoff alone and that MacKenzie does not teach or suggest the use of a test line which is coupled to a sensor in the same manner as the secondary line. (See brief at page 19.) We agree with appellant that MacKenzie does not remedy the deficiency noted in Beihoff alone and that MacKenzie does not teach or suggest the use of a test line which is coupled to a sensor in the same manner as the secondary line. Therefore, we will not sustain the rejection of dependent claims 20-23.

## CONCLUSION

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To summarize, the decision of the examiner to reject claims 1, 9, 17, 18, and 20-25 under 35 U.S.C. § 103 is reversed.

**REVERSED**

JOSEPH F. RUGGIERO  
Administrative Patent Judge

JOSEPH L. DIXON  
Administrative Patent Judge

STUART S. LEVY  
Administrative Patent Judge

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